

**EPA Superfund
Record of Decision:**

**T.H. AGRICULTURE & NUTRITION CO.
(MONTGOMERY PLANT)
EPA ID: ALD007454085
OU 01
MONTGOMERY, AL
01/17/1995**

**DECLARATION
of the
RECORD OF DECISION
OPERABLE UNIT ONE
GROUNDWATER INTERIM ACTION**

SITE NAME AND LOCATION

T H Agriculture & Nutrition Site
Montgomery, Montgomery County, Alabama

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected interim remedial action for the T H Agriculture & Nutrition (THAN) Site, Montgomery, Alabama, developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42 U.S.C. Section 9601 et seq., and to the extent practicable, the National Contingency Plan (NCP), 40 CFR Part 300. This decision is based on the administrative record for the THAN site.

The State of Alabama, as represented by the Alabama Department of Environmental Management (ADEM), has been the support agency during the Remedial Investigation and Feasibility Study (RI/FS) process for the THAN site and concurs with the selected remedy.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Interim Action Record of Decision (ROD), may present an imminent and substantial endangerment to public health, welfare or the environment.

DESCRIPTION OF SELECTED REMEDY

This interim remedial action employs the use of extraction wells combined with a pump and treat system to prevent further migration of contaminated groundwater from the Site and to initiate groundwater restoration pending completion of the RI/FS and implementation of the final remedial action.

The major components of the selected remedy for this interim remedial action include:

- Extraction of contaminated groundwater to contain contamination within the boundaries of the THAN and Elf Atochem properties;
- Discharge of water to the local publicly-owned treatment works (POTW). If EPA discovers during remedial design that discharge to the POTW is technically impracticable or cannot be implemented in a cost-effective or timely manner, then the treated groundwater shall be discharged on-site via reinjection or infiltration. This action will be consistent with final actions taken to address contamination at the THAN Site.

STATUTORY DETERMINATIONS

This interim remedial action is protective of human health and the environment in the short term, and is intended to provide adequate protection until a final ROD is signed. It complies

with federal and state applicable or relevant and appropriate requirements for this limited-scope action, and is cost-effective. This action is interim and is not intended to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable for this operable unit. Because this action does not constitute the final remedy for the Site, the statutory preference for remedies that employ treatment that reduces toxicity, mobility or volume as a principal element, although partially addressed in this remedy, will be addressed by the final response action. Subsequent actions are planned to address fully the threats posed by the conditions at this Site. Because this remedy will result in hazardous substances remaining on-site above health-based levels, a review will be conducted to ensure that the remedy continues to provide adequate protection of human health and the environment within five years after commencement of the remedial action. Because this is an interim action ROD, review of this Site and of this remedy will be ongoing as EPA continues to develop final remedial alternatives for the Site.

RICHARD D. GREEN
ASSOCIATE DIVISION DIRECTOR
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DATE

TABLE OF CONTENTS

1.0	Site Location and Description.....	1
2.0	Site History and Enforcement Activities.....	3
3.0	Highlights of Community Participation.....	4
4.0	Scope of Operable Unit.....	4
5.0	Summary of Site Characteristics.....	5
5.1	Geology/Soils.....	5
5.2	Surface Water and Sediments.....	6
5.3	Hydrogeology.....	6
6.0	Summary of Site Risk.....	10
7.0	Description of Alternatives.....	11
7.1	Alternative No. 1 - No Action.....	11
7.2	Alternative No. 2 - Extraction with Discharge to River.....	11
7.3	Alternative No. 3 - Extraction with Discharge to Ditch.....	12
7.4	Alternative No. 4 - Extraction with Discharge to POTW.....	12
7.5	Alternative No. 5 - Extraction with Reinjection/Infiltration...14	
8.0	Summary of the Comparative Analysis of Alternatives.....	14
8.1	Overall Protection of Human Health and the Environment.....	15
8.2	Compliance With ARARS.....	16
8.3	Long-Term Effectiveness and Permanence.....	16
8.4	Reduction of Toxicity, Mobility or Volume Through Treatment...16	
8.5	Short-Term Effectiveness.....	16
8.6	Implementability.....	16
8.7	Cost.....	17
8.8	State Acceptance.....	17
8.9	Community Acceptance.....	17
9.0	The Selected Interim Remedy.....	17
10.0	Statutory Determination.....	21
10.1	Protective of Human Health and the Environment.....	21
10.2	Attainment of ARARs.....	21
10.3	Cost Effectiveness.....	23
11.0	Explanation of Significant Changes.....	23

LIST OF FIGURES & TABLES

Figure 1	Area Map for the THAN Site.....	2
Figure 2	Site Map for the THAN Site.....	2
Table 1	Frequency of Detection for Constituents in Groundwater.....	8
Table 2	Description of Cleanup Alternatives.....	13

**Record of Decision
Operable Unit One
Groundwater Interim Action**

**T H Agriculture & Nutrition Site
Montgomery, Alabama**

1.0 SITE LOCATION AND DESCRIPTION

The T H Agriculture & Nutrition (THAN) Site is located on the west side of Montgomery, Alabama, about two miles south of the Alabama River and 1,600 feet west of Maxwell Air Force Base (Figure 1). Access to the Site is from State Highway 31-82. The Site is basically flat and includes two properties: the THAN property and the Elf Atochem property. The Site covers 16.4 acres, with the THAN property covering about 11.6 acres and the Elf Atochem property covering 4.8 acres (Figure 2).

The only structure on the THAN property is a warehouse that was used for storing water treatment chemicals, plating chemicals, and agricultural chemicals. The remaining areas consist of mixed pine forest and a low, marshy area. The middle half of the Elf Atochem property has an operating area including a concrete paved area and a number of buildings. The area was formerly used for mixing, repackaging, and distributing agricultural and industrial chemicals. The east portion has an open parking area, and the west portion is an open area covered by grass and brush.

The land west of the Site was used for farming in the past. However, the land does not appear to have been actively farmed for a number of years. The property to the northwest is a mobile home park called Lakewood Estates (formerly Twin Lakes Community). Beyond the mobile home park is a small residential area. Undeveloped land covered by mixed forest, brush, and grass is on the north border. The entire area around the Site is zoned for general industrial use. A residential community lies about a mile southwest of the Site.

Wittichen Chemical Company first developed the THAN property as a sales, packaging, and storage facility for water treatment and plating chemicals. THAN, which was then known as Thompson Hayward Chemical Company, bought the facility in 1966 for storage and distribution of agricultural and industrial chemicals. THAN, a wholly owned subsidiary of Phillips Electronics North America Corporation, closed the facility in 1978 and leased it for various time periods before selling it in 1986 to Williamson Industries, Inc. THAN recently re-purchased this property from Williamson Industries.

The Elf Atochem property was first developed by Montgomery Industries. Elf Atochem North America, Inc., formerly known as Pennwalt Corporation, purchased this property in 1951 and used it as a chemical blending and distributing facility. Astro Packaging, Inc. bought the Elf Atochem property in 1979 and leased it to Industrial Chemicals. Elf Atochem now leases the property from Astro Packaging.

2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

In October 1980, the Alabama Water Improvement Commission (AWIC) (a predecessor to the Alabama Department of Environmental Management or ADEM) inspected the THAN property in connection with THAN's closing of its facility. During this inspection, AWIC found waste material in open and underground pits. In 1981, under the supervision of the Alabama Department of Public Health, Division of Solid & Hazardous Waste, THAN excavated waste and contaminated soil from 13 burial

areas and collected contaminated groundwater, treated it, and discharged it to a publicly-owned treatment works (POTW).

In April 1986, THAN sold the THAN property to Williamson Industries, Inc. In August 1994, THAN purchased this property back from Williamson and is the current owner of this portion of the Site.

Elf Atochem, f/k/a Pennwalt Corporation, owned and operated a chemical formulation and distribution facility on its property which is adjacent to and up gradient from the THAN property. Elf Atochem handled substances similar to those handled by THAN. Elf Atochem maintained a 700,000 gallon evaporation lagoon on its property for the storage and treatment of wastewater. The Elf Atochem property is currently owned by Astro Packaging, Inc. Astro Packaging leased it to Industrial Chemicals, Inc. (IC), until March 1994. IC operated a warehouse distribution center on the Elf Atochem property. IC vacated the Elf Property in March 1994 and Elf Atochem currently leases it from Astro Packaging.

The THAN property was listed on the National Priority List in August of 1990. Thereafter, it was discovered that contamination from the Elf Atochem property was impacting the THAN property and the Site was expanded to include both the THAN property and the Elf property.

In March 1991, Elf Atochem agreed to perform the Remedial Investigation/Feasibility Study (RI/FS) pursuant to the terms of a consent order issued by EPA. This detailed study of Site contamination is ongoing and is being conducted under EPA oversight. This study includes several phases and has investigated soil, surface water, sediment, groundwater, and air at the Site. Geophysical surveys and both surface and subsurface soil sampling on an extensive grid system have been completed. A wetlands survey and an ecological assessment are underway. The results of the remedial investigation are in the information repository. In addition, numerous treatability studies and a focused feasibility study which concentrates on groundwater alternatives have been completed.

3.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION

The proposed plan for interim remedial action was presented at a public meeting held on Tuesday, December 12, 1994 at the Hunter Station Community Center. Representatives from EPA attended the meeting and answered questions regarding the Site and the proposed plan under consideration. The administrative record was available to the public at both the information repository maintained at the Air University Library and at the EPA Region IV Library at 345 Courtland Street in Atlanta, Georgia. The notice of availability of these two documents was published in the Montgomery Advertiser on December 9 and December 12, 1994. The public comment period on the proposed plan was December 9, 1994 through January 9, 1995. EPA extended the comment period by thirty days to February 8, 1995, upon requests from the public. Responses to the significant comments received during the public comment period and at the public meeting are included in the Responsiveness Summary, which is included in this ROD as Appendix A.

In addition, EPA held an availability session at a local library at the start of field work in August, 1991. EPA chose the Air University Library at Maxwell Air Force Base as the local information repository because of its proximity to the Site. In March 1992, EPA held a public meeting at what is now Lakewood Estates Trailer Park to discuss the remedial investigation findings at the Site.

This decision document presents the selected interim remedial action for operable unit one of the THAN Site, chosen in accordance with CERCLA, as amended by SARA,; and the NCP. The decision for this Site is based on the administrative record. The requirements under Section 117 of CERCLA/SARA for public and state participation have been met for this operable unit.

4.0 SCOPE AND ROLE OF OPERABLE UNIT AND OVERALL SITE STRATEGY

EPA has organized the work at this Superfund Site into two operable units (OUs). These units are:

- OU one: An interim remedial action for containment of groundwater contamination at the Site.
- OU two: The final action for the cleanup of the contamination in the soils, sediment, air and groundwater at the Site.

Operable unit one encompasses the interim remedial action and involves the implementation of a multiple-well gathering and pump and treat system to control and contain the contaminated groundwater plume, to initiate groundwater restoration activities prior to final site remediation, and to obtain information on the aquifer's response to pumping. Data obtained during the remedial investigation indicates that there is contaminated groundwater within the unconfined surficial aquifer at the Site. This aquifer is classified in the Guideline for Ground-Water Classification Under EPA Ground-Water Protection Strategy, Final Draft, December 1986, as a Class II Groundwater, that is a current source of drinking water. Although this interim remedy does not constitute a final remedy for the Site, it will reduce the levels of contaminants within the aquifer and prevent further migration of contaminants from the Site pending completion of the RI/FS. Upon completion of the RI/FS, EPA will select the final remedy for cleanup of the Site. The groundwater pump and treat system may be incorporated into the final remedial action in addition to other remedial activities which EPA determines are necessary to cleanup the Site.

5.0 SUMMARY OF SITE CHARACTERISTICS

5.1 GEOLOGY/SOILS

The Site is situated on Quaternary alluvial and terrace deposits consisting of sand, gravel, silt, and clay which were encountered from the surface to a depth of approximately 45 feet. Below these, an approximately 950 foot thick sequence of Cretaceous units extends to Paleozoic bedrock. The Cretaceous units include, in descending order, the Eutaw, Gordo, and Coker Formations, consisting of various sand, silt, and clay deposits.

Groundwater occurs in an unconfined surficial aquifer (Alluvial/Terrace Deposits aquifer) at the Site with the water table at approximately 15 feet below ground surface. Groundwater in the surficial aquifer flows generally toward the northwest at an average rate of approximately 0.28 feet per day. A potentiometric mound located north of the Site appears to direct some groundwater flow from the Site toward the northeast. Differences in head between nested monitoring wells at the Site indicate that groundwater also has a very small vertically downward component of flow within the aquifer.

The surficial aquifer is underlain at approximately 60 feet below ground surface by the approximately 60-foot thick Middle Eutaw confining unit. The top of the Middle Eutaw confining unit is characterized by a dense green clay layer, which is underlain by interbedded layers of sand and clay. Although a downward vertical gradient exists across this confining unit, the low permeability zones restrict vertical groundwater flow to an approximate rate of 4.3×10^{-5} feet per day. At this flow velocity, the most mobile constituents would require approximately 4,800 years to migrate from the surficial aquifer through the confining unit to the next deeper aquifer below.

Beneath the Middle Eutaw confining unit are three regional aquifers, as follows in descending order: Lower Eutaw aquifer, Gordo aquifer, and Coker aquifer. These aquifers are the source of groundwater for the City of Montgomery's West Well Field, which, at its nearest point, is 1.3 miles from the Site. Based on water levels reported from the West Well Field, as compared to water levels in one on-site well completed in the Lower Eutaw aquifer, groundwater in these deeper units most likely flows south, in the vicinity of the Site, toward the well field. However, these deeper aquifers are not believed to be affected by the Site at this time.

5.2 Surface Water and Sediments

Surface water near the Site includes Catoma Creek, located approximately 1.5 miles to the west-southwest; the Alabama River, located 2 miles to the north-northeast; and the West End Ditch, which is located approximately 2,000 feet east of the Site. Catoma Creek and the West End Ditch are tributaries of the Alabama River.

Surface water drainage on the THAN property is toward a small marshy area west of the warehouse into a small drainage ditch that parallels the western Site boundary and terminates at the southern Site boundary. This surface water is perched on low permeability soil (clay and silt) and may act as a minor recharge area for the Site. Water in the west ditch flows through a low point in the bank and then flows on an intermittent basis southwest through a combination of ditches and marshy areas.

Drainage from the eastern portion of the Site flows through storm drains into a ditch on the eastern boundary of the Site. Water in the ditch at times is pooled and stagnant, but during high water periods, flows south from the Site in the ditch. The ditch crosses under Highway 31-82 approximately 3,000 feet south of the Site. At that point, it flows east into the West End Ditch, which drains a large portion of western Montgomery. The storm sewer system that services a majority of the Elf Atochem property discharges to the east ditch at the outfall location. In addition, a much smaller drainage ditch east of Highway 31-82, which collects stormwater runoff from properties on that side of the highway, drains to the east ditch via three storm culverts in the vicinity of the Site.

5.3 Hydrogeology

The groundwater monitoring system at the Site consists of 47 monitoring wells. Twenty-eight shallow monitoring wells are completed in the uppermost portion of the surficial aquifer and are screened across the water table. Thirteen intermediate monitoring wells are completed in the lower portion of the surficial aquifer. All intermediate wells are coupled with, or adjacent to, a shallow well. Five deep wells are completed in the permeable zones of the Middle Eutaw confining unit, and a sixth deep well is completed in the top of the Lower Eutaw aquifer.

Groundwater at the Site was analyzed for 158 constituents. Constituents of interest in groundwater were defined as all organic constituents detected at any level in any groundwater samples, and all inorganic constituents detected at any level in any groundwater samples obtained using a slow-purge sampling method. Confirmed detections of constituents of interest were limited to the surficial aquifer, with the exception of samples from one deep well in the uppermost permeable zone of the Middle Eutaw confining unit. Low concentrations of constituents in this well are believed to have originated from seepage through a former deep water-supply well located on the Site. The former water-supply well was abandoned during the RI. The frequency of detection of the various constituents found in groundwater at the Site, as well as the maximum concentration detected, is enumerated in Table 1.

Eighteen pesticide compounds (including multiple isomers of some compounds) and four herbicides were detected in the groundwater samples during the RI. In general, the most notable

concentrations of pesticides and herbicides in the shallow wells occur in two distinct areas. One is located in the vicinity of the operations area at the Elf Atochem property and the other is located in the vicinity of the former THAN disposal area and the northeast corner of the THAN property. In contrast, pesticide concentrations in the intermediate wells are highest downgradient from these areas. The constituents of interest in the intermediate wells appear to be the downgradient extension of the detections in the shallow wells.

Twenty-one volatile organic compounds were identified as constituents of interest in the RI groundwater samples. The distribution of volatile organics in groundwater at the Site is very similar to that of pesticides. The highest concentrations of volatile organics occur in the shallow wells at or very near the operations area at the Elf Atochem property and the former THAN disposal area. As was the case with pesticides, the highest concentrations of volatiles in the intermediate wells occur within an area that includes the THAN property and extends downgradient in the aquifer. Therefore, the relationship of the distribution of volatiles between the upper and lower portion of the surficial aquifer is essentially the same as that for pesticides and for the same reasons.

Nineteen semivolatile organic compounds were detected in at least one of the groundwater samples from the shallow and intermediate wells during the RI. Semi-volatiles were detected primarily in the shallow wells with the highest concentrations centered in the vicinity of the Elf Atochem operations area. The majority of the semi-volatiles detected in the groundwater in this area are polynuclear aromatic hydrocarbons.

Frequency of Detection and Maximum Concentrations for Constituents of Interest in Groundwater

Constituent	# of Hits/Total # of Sampling Events	Maximum Detected Concentration (:g/L)
VOLATILES		
Methylene Chloride	1/108	2,200
Acetone	1/108	120
Carbon disulfide	2/108	86
1,1-Dichloroethene	22/108	250
1,1-Dichloroethane	11/108	28
1,2-Dichloroethene (total)	29/108	570
Chloroform	22/108	400
1,2-Dichlorethane	8/108	100
1,1,1-Trichloroethane	26/108	320
Carbon tetrachloride	15/108	170
1,2-Dichloropropane	2/108	10
Trichloroethene	42/108	260
Dibromochloromethane	1/108	1.9
Benzene	16/108	3,100
4-Methyl-2-pentanone	1/108	0.8
Tetrachlorethene	33/108	79
Toluene	5/108	1,600
Chlorobenzene	9/108	2.7
Ethyl benzene	4/108	8,300
Xylene (total)	9/108	70,000
1,2-dichlorobenzene	1/108	1.2

SEMI-VOLATILES

Bis(2-ethylhexyl)phthalate	5/108	59
Butyl Benzyl phthalate	2/108	0.4
Diethyl phthalate	16/108	0.4
Di-n-octyl phthalate	6/108	0.7
Fluoranthene	1/108	0.2
Fluorene	3/108	2.6
Naphthalene	11/108	98
Nitrobenzene	11/108	8.5
n-Nitrosodiphenylamine	1/108	0.6
Phenanthrene	3/108	7.6
1,2,4-Trichlorobenzene	3/108	2.2
2-Methylnaphthalene	7/108	160
Dibenzofuran	3/108	1.0
2-Chlorophenol	2/108	0.4
2-4 Dichlorophenol	4/108	12
2-4 Dimethylphenol	1/108	5.1
Phenol	6/108	1.3
2,4,6-Trichlorophenol	4/108	19
4-Methylphenol	5/108	3.2

Frequency of Detection and Maximum Concentrations for Constituents of Interest in Groundwater

Constituent	# of Hits/Total # of Sampling Events	Maximum Detected Concentration(:g/L)
PESTICIDES/HERBICIDES		
alpha-BHC	49/108	19
beta-BHC	50/198	3.8
gamma-BHC	40/108	42
delta-BHC	52/108	17
4,4'-DDD	28/108	22
4,4'-DDE	5/108	11
4,4'-DDT	5/108	38
Dieldrin	27/108	0.80
Endosulfan I	1/108	0.066
Endrin	18/108	9.4
Endrin aldehyde	1/108	0.20
Heptachlor epoxide	1/108	0.09
alpha-Chlordane	6/108	0.26
gamma-Chlordane	2/108	0.05
Endrin ketone	19/108	14
2,4'-DDD	4/108	4.3
2,4'-DDE	20/108	3.8
2,4'-DDT	3/108	7.7
2,4,5-TP	3/108	22
Dinoseb	6/108	25
Prometon	2/51	3.8
Bromacil	3/51	5.7

METALS (total)

Aluminum	94/108	689,000
Antimony	11/108	118
Barium	108/108	2,270
Cadmium	12/108	11
Cobalt	79/108	411
Iron	97/108	1,370,000
Manganese	106/108	30,700
Mercury	19/108	2.4
Vanadium	81/108	768
Zinc	73/108	6,640

METALS (soluble)

Aluminum	16/51	790
Antimony	7/51	34
Barium	45/51	138
Cadmium	2/51	4.9
Cobalt	7/51	14
Iron	85/108	86,300
Manganese	50/51	2,960
Mercury	1/37	2.0
Vanadium	4/51	6.5
Zinc	23/51	245

Ten inorganics were retained as constituents of interest in groundwater from shallow and intermediate wells during the remedial investigation. There appears to be no discernible pattern of inorganic constituents in groundwater. Constituents of interest have been detected in groundwater on-site and in near-site areas in the surficial aquifer. The precise extent of affected groundwater is not entirely defined to the north, east, and west. The furthest off-site detections of constituents of interest in groundwater were at wells MW-41S and MW-42I, located 600 feet north of the Site, and well MW-48I, 3,250 feet northwest of the Site.

6.0 SUMMARY OF SITE RISKS

EPA is in the process of completing a formal baseline risk assessment for the Site to determine the current or potential threat to human health and the environment in the absence of any remedial action. An ecological assessment is also being conducted that will address any impact the Site may have on the marsh/drainage areas of the Site. EPA's decision to initiate interim remedial action at this Site is based upon data collected during the remedial investigation. This information indicates that hazardous substances released from this Site are migrating through groundwater. Primary contaminants of concern are pesticides, including delta-BHC, lindane, DDT, and chlordane, herbicides, volatile organic compounds, including trichlorethene and tetrachlorethene, and semi-volatile compounds. This interim remedial action will be conducted to address the most imminent and substantial problem identified thus far at the Site. This interim remedial action will prevent groundwater contamination from migrating and also will begin groundwater restoration activities.

A major risk that is currently associated with the Site is contamination in the groundwater. Ingestion of groundwater could result in exposure to various contaminants. Exposure to contaminated groundwater may result if wells are used or installed in a water bearing zone which is contaminated. The frequency of detection and the maximum concentrations of contaminants found in groundwater is shown in Table 1. Current evidence shows that the zone of contamination beneath the Site does not extend far enough to impact local rivers or streams.

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

7.0 DESCRIPTION OF ALTERNATIVES

Five alternatives for the interim remediation of contaminated groundwater in OU#1 at the THAN Site were evaluated in the Focused Feasibility Study Report and listed in the Proposed Plan for Operable Unit #1. These alternatives represent a range of distinct waste-management strategies addressing the human health and environmental concerns. Although the selected remedial alternative will be further refined as necessary during the pre-design phase, the analysis presented below reflects the fundamental components of the various alternatives considered feasible for this Site. Table 2 lists each alternative, along with implementation times and estimated costs.

7.1 ALTERNATIVE No. 1 - No Action

The No Action alternative is carried through the screening process as required by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This alternative is used as a baseline for comparison with other alternatives that are developed. Under this alternative, EPA would take no further action to minimize the impact groundwater contamination has on the area. Groundwater contamination would remain and possibly migrate. There is no cost associated with this alternative since no additional activities would be conducted.

7.2 Alternative No. 2 - Extraction, Treatment, and Discharge to the Alabama River

This alternative includes extraction and on-site treatment of groundwater, conveyance and discharge to the Alabama River through a diffuser outfall, and groundwater monitoring. Groundwater would be extracted using submersible pumps having adequate total discharge head (TDH) for conveyance to an on-site treatment facility. Frequent monitoring of control facilities by remote access control devices and/or site inspection would be required. Control instrumentation at the treatment facility would monitor extraction rates and volumes to ensure proper operation. Treatment processes for this alternative would likely include solids removal, sludge handling, and disposal.

Treated groundwater would be directed through a underground discharge pipe from the on-site treatment facility to the Alabama River. Approximately 2.25 miles of discharge piping would be required. Access to the Alabama River would require that discharge piping-traverse multiple road crossings and a railroad crossing. The discharge outfall will be equipped with a diffuser to provide the required mixing to meet surface water quality criteria.

7.3 Alternative No. 3 - Extraction, Treatment, and Discharge to the East Ditch

This alternative involves the extraction and on-site treatment of groundwater, and subsequent discharge of treated groundwater to the east ditch. Components of the groundwater extraction system are identical to those of Alternative No. 2. On-site treatment for this alternative is more rigorous than Alternatives No. 2 and No. 4. because no mixing is available in the east ditch. Extracted groundwater would be treated in accordance with the standards required by the Clean Water Act, NPDES program, and Ambient Water Quality Criteria, as delegated to the State of Alabama. Treated groundwater would then be discharged to the east ditch using replacement pipe placed along the existing stormwater piping system. The addition of a concrete or rip-rap energy dissipater at the outfall pipe to the east ditch would also be required to prevent sediment erosion within the east ditch. Groundwater discharge into the east ditch would flow south along Highway 31-82 to a point approximately 3,000 feet southeast of the Site, where water would then flow into the West End Ditch and eventually into the Alabama River.

Prior to discharge into the east ditch, groundwater would be conveyed to an on-site treatment facility. Major components of the treatment process include: metals/solids removal, granular media filtration, air stripping, granular activated carbon, and sludge handling and disposal. Modifications to the anticipated treatment plant location may need to be made to accommodate the necessary equipment. This would include refurbishing the building and adjacent areas to meet anticipated space and enclosure requirements.

7.4 Alternative No. 4 - Extraction, Treatment, and Discharge to the Local POTW

This alternative involves on-site groundwater extraction, discharge to the local publicly owned treatment works (POTW) for treatment, groundwater monitoring, and monitoring of the discharge into the POTW and into the receiving water. The groundwater extraction system for this alternative would consist of on-site extraction wells using submersible pumps having adequate total discharge head for conveyance from the well to the first lift station in the existing sanitary sewer line between the Site and the POTW. Extracted groundwater would be conveyed directly to the existing sanitary sewer system.

Groundwater monitoring would be conducted to evaluate the efficiency of the extraction system. In addition, the extracted groundwater discharged to the POTW and the POTW influent and effluent would be monitored for constituents of interest. Monitoring would occur at least quarterly for the first year of operation, and on a semiannual basis thereafter.

TABLE 2 - DESCRIPTION OF CLEANUP ALTERNATIVES

EPA evaluated five alternatives identified in the Focused Feasibility Study (FS) for containing groundwater contamination related to the THAN Site. The following table lists each alternative and provides a short description, the total cost associated with the alternative, and the time required to implement each.

Alternative and Explanation		
	Total Cost	Implementation Time
ALTERNATIVE No. 1 - No Action	0	-0-

The No Action alternative is used as required by the National Contingency Plan (NCP), the regulation implementing the Superfund law, as a baseline for comparing other alternatives. Under this option, EPA would take no action to contain groundwater contamination. Contamination would remain and possibly migrate further. Costs associated with this alternative would be monitoring of soil and groundwater, which would continue in the future.

ALTERNATIVE No. 2 - Pump and Treat with Discharge to the Alabama River	11,927,000	17 months
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This alternative would include withdrawing and treating groundwater on-site, discharging to the Alabama River through a diffuser outfall, and groundwater monitoring. Groundwater would be withdrawn using submersible (under the water) pumps to discharge contaminated water to an on-site treatment facility. Frequent monitoring and/or inspection would be required to ensure proper rates and volumes for adequate operation. Treatment would include solids removal, sludge handling, and disposal. Treated groundwater would be directed through a single, underground discharge pipe from the treatment facility to the Alabama River about 2.25 miles away. Access to the Alabama River would require that discharge pipes cross roads (Highway 31-82 being the most significant) and a railroad crossing. The discharge outfall would be equipped with a diffuser to provide the required mixing to meet surface water quality criteria.

ALTERNATIVE No. 3 - Pump and Treat with Discharge to the East Ditch (on-site)	14,800,000	27 months
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This alternative would involve the extraction and on-site treatment of groundwater, and discharge of treated groundwater to the east ditch. Components of the groundwater extraction (withdrawal) system are identical to those of Alternative No. 2. On-site treatment for this alternative is more rigorous than discharge to the river because no mixing would be available in the east ditch. The treated groundwater (treated to levels protective of human health and the environment) would be discharged to the east ditch using replacement pipe placed along the existing storm water piping system. The addition of a concrete or stone rip-rap energy dissipater at the opening of the pipe would also be needed to prevent sediment erosion within the east ditch. Groundwater discharge into the east ditch would flow south along Highway 31-82 to a point approximately 3,000 feet southeast of the Site, where water would then flow into the West End Ditch and eventually into the Alabama River. Prior to discharge into the east ditch, groundwater would be conveyed to an on-site treatment facility. Major components of the treatment process include: metals/solids removal, granular filters, air stripping, granular activated carbon, and sludge handling and disposal. Changes to the anticipated treatment plant location might be needed to accommodate necessary equipment.

ALTERNATIVE No. 4 - Pump and Treat with Discharge to the Local Publicly-Owned Treatment Works (POTW)

6,100,000 12 months

This alternative would involve groundwater withdrawal, and discharge of treated groundwater to the local Publicly Owned Treatment Works (POTW). Discharge of groundwater would be through the existing sanitary sewer system, with some anticipated changes. The present gravity sanitary sewer system, both immediately on-site and off-site, would require upgrading in order to accept the additional 150 gallons per minute (gpm) treated water discharge. The Site is connected to the local POTW with an existing 8 inch clay pipe that flows southeast along Highway 31-82 to a point about 3,000 feet southeast of the Site. At that point, it intersects a 24-inch iron pipe flowing northeast, generally along the same route as the West End Ditch, to pump station (Station 22) where a 24-inch reinforced concrete pipe now carries sewage to the POTW. An expansion slot is available for a third pump based on information provided by POTW officials. About 700 feet of the existing on-site 6 inch pipe and 3,500 feet of the existing off-site gravity system would need to be upgraded to a 12-inch diameter PVC pipe. Present flows are currently being evaluated by City of Montgomery Waste Water Treatment Program officials in order to determine if additional flows could be accommodated. Cost estimates reflect pipe upgrade and assistance to the POTW in installing a additional pump and a new diffuser at the existing POTW.

ALTERNATIVE No. 5 - Pump and Treat with Discharge to an On-site Infiltration Gallery or On-site Reinjection

16,200,000 27 months

This alternative would involve the extraction and on-site treatment of groundwater, and discharge of treated groundwater on-site by either reinjection or infiltration. Components of the groundwater extraction (withdrawal) system are identical to those of Alternative No. 2. On-site treatment for this alternative is more rigorous than discharge to the river because no mixing would be available. The treated groundwater (treated to levels protective of human health and the environment) would be discharged on-site via an infiltration gallery or reinjection well. Prior to discharge on-site, groundwater would be conveyed to an on-site treatment facility. Major components of the treatment process include: metals/solids removal, granular filters, air stripping, granular activated carbon, and sludge handling and disposal. Changes to the anticipated treatment plant location might be needed to accommodate necessary equipment.

7.5 Alternative No. 5 - Extraction, Treatment, and Discharge On-site to an Infiltration Gallery or ReInjection Well

This alternative would involve the extraction and on-site treatment of groundwater, and discharge of treated groundwater on-site by either reinjection or infiltration. Components of the groundwater extraction (withdrawal) system are identical to those of Alternatives 2, 3, and 4. Extracted groundwater would be treated in accordance with the Safe Drinking Water Act, MCLs and non-zero MCLGs, Alabama's Primary Drinking Water Standards, Alabama's Underground Injection Control Program, and Resource Conservation and Recovery Act land disposal restrictions. The treated groundwater would be discharged on-site via an infiltration gallery or reinjection well. Prior to discharge on-site, groundwater would be conveyed to an on-site treatment facility. Major components of the treatment process include: metals/solids removal, granular filters, air stripping, granular activated carbon, and sludge handling and disposal. Changes to the anticipated treatment plant location might be needed to accommodate necessary equipment.

8.0 SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES

This section of the ROD provides the basis for determining which alternative provides the best balance with respect to the statutory balancing criteria in Section 121 of CERCLA and in Section 300.430 of the NCP. The major objective of the focused feasibility study was to develop, screen, and evaluate alternatives for the remediation of OU #1 at the THAN site. The remedial alternatives selected from the screening process were evaluated using the following nine evaluation criteria:

- Overall protection of human health and the environment.
- Compliance with applicable and/or relevant Federal or State public health or environmental standards.
- Long-term effectiveness and permanence.
- Reduction of toxicity, mobility, or volume of hazardous substances or contaminants.
- Short-term effectiveness, or the impacts a remedy might have on the community, workers, or the environment during the course of implementing it.
- Implementability, that is, the administrative or technical capacity to carry out the alternative.
- Cost-effectiveness considering costs for construction, operation, and maintenance of the alternative over the life of the project, including additional costs should it fail.
- Acceptance by the State.
- Acceptance by the Community.

The NCP categorizes the nine criteria into three groups:

- (1) Threshold Criteria - overall protection of human health and the environment and compliance with ARARs (or invoking a waiver) are threshold criteria that must be satisfied in order for an alternative to be eligible for selection;
- (2) Primary Balancing Criteria - long-term effectiveness and permanence; reduction of

toxicity, mobility, or volume; short-term effectiveness; implementability, and cost are primary balancing factors used to weigh major trade-offs among alternative hazardous waste management strategies; and

- (3) Modifying Criteria - state and community acceptance are modifying criteria that are formally taken into account after public comment is received on the proposed plan and incorporated in the ROD.

The selected alternative must meet the threshold criteria and comply with all ARARs or be granted a waiver for compliance with ARARs. Any alternative that does not satisfy both of these requirements is not eligible for selection. The Primary Balancing Criteria are the technical criteria upon which the detailed analysis is primarily based. The final two criteria, known as Modifying Criteria, assess the public's and the state agency's acceptance of the alternative. Based on these final two criteria, EPA may modify aspects of a specific alternative.

The following analysis is a summary of the evaluation of alternatives for remediating the THAN Superfund site under each of the criteria. A comparison is made between each of the alternatives for achievement of a specific criterion.

Threshold Criteria

8.1 Overall Protection of Human Health and the Environment

Other than the No Action alternative, all the other alternatives would protect human health and the environment through containment of affected groundwater in the surficial aquifer.

8.2 Compliance with ARARs

Because this remedy is an interim measure for the containment of the contaminated groundwater plume, cleanup levels for groundwater are not addressed in the ROD and are beyond the limited scope of this action. Groundwater cleanup levels will be established in the final remedial action ROD for the Site. Accordingly, to the extent that this interim remedy addresses remediation of groundwater, an interim action waiver pursuant to CERCLA Section 121(d)(4), 42 U.S.C §9621(d)(4)(A), for MCL's and MCLGs is invoked. All of the alternatives could be designed to meet the other state and federal ARARs that are not included in the interim measure waiver.

Primary Balancing Criteria

8.3 Long-Term Effectiveness and Permanence

The interim measures described above do not provide for permanent remediation of the source waste at the Site. However, the extraction well and pump and treat system will permanently eliminate contaminants from the extracted well waters, will prevent further migration, and contain contaminated groundwater onsite. All of the alternatives except for No Action are consistent with EPA's long-term goal of restoration of groundwater at the Site. Additional data will be generated during implementation of the interim remedial action. This information concerning hydraulic conductivity and aquifer response will be used in conjunction with RI/FS data to facilitate final remedy selection. Long-term effectiveness and permanence will be thoroughly evaluated at that time.

8.4 Reduction of Toxicity, Mobility or Volume Through Treatment

All the alternatives other than No Action will effectively reduce toxicity and mobility of contaminants through some form of treatment. On-site treatment will be done for Alternatives

No. 2, No. 3, and No. 5, with off-site treatment being conducted for Alternative No. 4.

8.5 Short-Term Effectiveness

Significant short-term effectiveness will result from implementation of all the alternatives other than No Action because they would each reduce the potential threats from contaminants in the groundwater. Other than the No Action Alternative, Alternative No. 4 involves the least amount of construction time (12 months).

8.6 Implementability

Implementability and availability of equipment, facilities, and specialists for the design and construction of the discharge alternatives do not pose any uncommon technical challenges. Differences among the alternatives exist due to the complexity and size of the treatment facilities required in each case. Treatability studies would be required to determine design parameters and to confirm that the treatment objectives could be satisfied. Alternative No. 4 has the shortest implementation period (12 months).

8.7 Cost

The cost summary for all alternatives is presented in Table 2. The present worth was calculated for a period of 30 years at a 10 percent interest rate. The comparison of the estimated capital and annual O&M costs and the present worth for each alternative shows that Alternative No. 4 is the least expensive of the pump and treat alternatives.

Modifying Criteria

8.8 STATE ACCEPTANCE

The State of Alabama, as represented by the Alabama Department of Environmental Management (ADEM), has assisted in the Superfund process through the review of documents and submittal of comments. The State has reviewed the proposed plan and Interim Action ROD and concurs with the selected remedy.

8.9 COMMUNITY ACCEPTANCE

Based on the comments expressed at the December 12, 1994 public meeting and the written comments received during the comment period, it appears that the Montgomery community does not disagree that a pump and treat system is necessary at this Site and supports Alternative #4.

9.0 THE SELECTED INTERIM REMEDY

Based upon CERCLA requirements, the NCP, the detailed analysis of alternatives, and public and state comments, EPA has determined that the activities as described in Alternative 4 constitute an appropriate interim remedial action until a final action for the Site is determined. Alternative #4 involves extraction of contaminated groundwater with discharge to the local publicly-owned treatment works (POTW). The selected remedy provides for the following:

A. GROUNDWATER CONTAINMENT

Groundwater remediation will contain the contaminated groundwater within the boundaries of the THAN and Elf Atochem properties in the aquifer at the Site. Under the selected remedy, groundwater remediation will include extraction of contaminated groundwater and discharge to the local POTW.

A.1. The major components of groundwater remediation to be implemented include:

- Extraction of the contaminated groundwater to contain contamination within the property boundaries of the THAN and Elf Atochem properties;
- Discharge of water to the local publicly-owned treatment works (POTW). Extraction and discharge to the POTW is the selected remedy. If EPA discovers during remedial design that discharge to the POTW is technically impracticable or cannot be implemented in a cost-effective or timely manner, then the extracted groundwater shall be treated on-site and discharged on-site via reinjection or infiltration. Onsite treatment and discharge via reinjection or infiltration is the contingency remedy. This action would be consistent with final actions taken to address contamination at the THAN Site.

A.2. Extraction, Treatment, and Discharge of Contaminated Groundwater

Extracted groundwater will be discharged to the local POTW for treatment. The groundwater extraction system for this alternative shall consist of on-site extraction wells using submersible pumps having adequate total discharge head for conveyance from the well to the first lift station in the existing sanitary sewer line between the Site and the POTW. Frequent monitoring of control facilities by remote access control devices and/or site inspection will be required. Extracted groundwater will be conveyed directly to the existing sanitary sewer system.

Groundwater monitoring will be conducted to evaluate the efficiency of the extraction system. In addition, the extracted groundwater discharged to the POTW and the POTW influent and effluent would be monitored for constituents of interest. Monitoring would occur at least quarterly for the first year of operation, and on a semiannual basis thereafter.

If EPA discovers during remedial design that discharge to the POTW is technically impracticable or cannot be implemented in a cost-effective or timely manner, then, at EPA's sole discretion, the groundwater shall be treated on-site and discharged on-site via reinjection or infiltration (the contingency remedy). Prior to discharge on-site, groundwater would be conveyed to an on-site treatment facility. Major components of the treatment process include: metals/ solids removal, granular filters, air stripping, granular activated carbon, and sludge handling and disposal. Changes to the anticipated treatment plant location might be needed to accommodate necessary equipment.

A.3. Performance Standards

a. Treatment Standards

Final treatment standards shall be included as part of the final ROD for OU #2 for this Site. The purpose of this operable unit is to contain the groundwater contaminant plume within the boundaries of the former THAN and Pennwalt properties. The property boundaries are deemed to be the point of compliance for this groundwater containment action. Once the groundwater extraction system is fully operational, all contaminants of concern should be at non-detect levels outside of the boundaries of the former THAN and Pennwalt properties.

If the contingency remedy is invoked by EPA, the groundwater must be treated to meet all ARARs before reinjection/infiltration occurs. All contaminants of concern should be at non-detect levels outside of the boundaries of the former THAN and Pennwalt properties after the groundwater extraction system is fully operational.

b. Discharge Standards

Discharges from the groundwater extraction system shall comply with all ARARs, including, but not limited to, any requirements established by the POTW for the selected remedy. If the contingent remedy is implemented, all on-site discharges must comply with all ARARs as more fully described in Section 10 below.

c. Design Standards

The design, construction and operation of the groundwater extraction system shall be conducted in accordance with the standards set forth in RCRA 40 C.F.R. Part 264 (Subpart F).

B. Compliance Monitoring

Groundwater monitoring shall be conducted quarterly at this Site for the first year. After the first year of remedial action, periodic monitoring will continue to be conducted at least twice annually until the performance standards are met (i.e., the contaminated groundwater plume is contained within the Site boundaries). Once the contaminant plume is brought back to within the current boundaries of the THAN and Elf Atochem properties, existing and possibly new wells will be sampled and analyzed at least quarterly along the boundaries of the THAN and Elf Atochem properties for the first year to ensure that the groundwater contaminant plume is being contained. After the first year, the wells will be sampled at least semiannually.

Alternative No. 4 will achieve substantial risk reduction through treatment of the principal threat at Operable Unit #1 of the THAN Superfund Site. The selected alternative for Operable Unit #1 of the THAN site is consistent with the requirements of Section 121 of CERCLA and the National Contingency Plan. The selected alternative will reduce the mobility, toxicity, and volume of contaminated groundwater at the Site. In addition, the selected alternative is protective of human health and the environment, will attain all Federal and State applicable or relevant and appropriate requirements for the limited scope of this action, and is cost-effective. This action is interim and is not intended to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable for this operable unit. Because this action does not constitute the final remedy for the Site, the statutory preference for remedies that employ treatment that reduces toxicity, mobility or volume as a principal element, although partially addressed in this remedy, will be addressed by the final response action. The selected alternative for OU #1 is consistent with previous and projected remedial actions at the Site.

The selected remedy will include groundwater extraction and monitoring, during which the system's performance will be carefully monitored on a regular basis and adjusted as warranted by the performance data collected during operation. Modifications may include any or all of the following:

- at individual wells where cleanup goals have been attained, pumping may be discontinued;
- alternating pumping at wells to eliminate stagnation points;
- pulse pumping to allow aquifer equilibration and encourage adsorbed contaminants to partition into groundwater; and
- installation of additional extraction wells to facilitate or accelerate cleanup of the contaminant plume.

To ensure that groundwater containment is maintained, the aquifer will be monitored at least annually for five years following discontinuation of groundwater extraction for those wells where pumping has ceased.

The decision to invoke any or all of these measures may be made during a periodic review of the remedial action, which will occur at least every five years in accordance with CERCLA section 121 (c) and the NCP.

10.0 STATUTORY DETERMINATION

10.1 Protection of Human Health and the Environment

This interim remedy is part of an overall remedy for the Site which will ultimately protect human health and the environment. This interim remedy is protective in the short term in that it will prevent migration of contaminated groundwater until a permanent remedy is in place.

10.2 ATTAINMENT OF THE APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)

The selected remedy must comply with the substantive requirements of federal and state laws and regulations which have been determined to constitute applicable or relevant and appropriate requirements (ARARS).

Applicable requirements are those cleanup standards, control standards, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a Superfund site. Relevant and appropriate requirements are those cleanup standards, control standards, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not applicable, address problems or situations sufficiently similar (relevant) to those encountered and are well-suited (appropriate) to circumstances at the particular site.

Safe Drinking Water Act, MCLs and MCLGs; Alabama's Primary Drinking Water Standards. Maximum contaminant levels (MCLs) and Maximum Contaminant Level Goals (MCLGs) promulgated under the authority of the Safe Drinking Water Act (SDWA) are specifically identified in Section 121 of CERCLA as well as the NCP as remedial action objectives for groundwater that is a current or potential source of drinking water supply. The groundwater underlying the THAN Site is classified as Class II A groundwater (i.e., potential sources of drinking water) under EPA's Guidelines for Ground-Water Classification. MCLs and non-zero MCLGs are therefore relevant and appropriate as final remedial action objectives for groundwater cleanup. Alabama's primary drinking water standards are also relevant and appropriate as final remedial action objectives for groundwater cleanup because they set standards for potential sources of drinking water. However, because this remedy is an interim measure for the containment of the contaminated groundwater plume, cleanup levels for groundwater are not addressed in the ROD and are beyond the limited scope of this action. Groundwater cleanup levels will be established in the final remedial action ROD for the Site. Accordingly, to the extent that this interim remedy addresses remediation of groundwater, an interim action waiver pursuant to CERCLA Section 121(d)(4), 42 U.S.C §9621(d)(4)(A), for MCL's and MCLGs is hereby invoked for the selected remedy. In the event the contingent remedy is invoked, extracted groundwater must be treated to meet MCLs and non-zero MCLGs prior to on-site discharge.

Resource Conservation and Recovery Act (RCRA); ADEM Hazardous Waste Regulations; ADEM Solid Waste Regulations. The selected groundwater remedy involves the short term storage of contaminated groundwater before it is sent to the POTW for treatment and disposal. If the contaminated groundwater is RCRA characteristic hazardous waste, hazardous waste regulations

which address storage units are applicable. If the contingent remedy for contaminated groundwater is implemented, which involves extraction, treatment and discharge at the Site by reinjection or infiltration, hazardous waste regulations which involve treatment and storage units may likewise be applicable. Land disposal restrictions establish treatment standards which must be met before hazardous wastes may be land disposed. Land disposal restrictions are applicable if the contingent remedy for contaminated groundwater is implemented, the contaminated groundwater is RCRA characteristic hazardous waste, and treated groundwater is discharged at the Site by reinjection or infiltration. In such an event, the land disposal restrictions must be met before treated groundwater may be discharged. Any waste generated by the treatment process, such as sludges and filters, are subject to the waste characterization and disposal provisions of RCRA.

Clean Water Act, Pretreatment Standards. The general pretreatment regulations set forth in 40 C.F.R Part 403 addresses the introduction of pollutants into POTWs and are applicable to the selected interim remedy.

Safe Drinking Water Act, Underground Injection Control Regulations, as delegated to the State of Alabama. If the contingent remedy for contaminated groundwater is implemented, and treated groundwater is discharged at the Site by reinjection or infiltration, the substantive requirements of the UIC program are applicable. See 40 CFR 147.50.

Alabama Regulations Governing Emissions of Pollutants to Air; Ambient Air Quality Standards. If the contingent remedy is invoked and on-site treatment occurs, these standards are applicable because there will be emissions of air pollutants from the air stripper in ambient air.

Department of Transportation (DOT) Regulations and Occupational Safety and Health Administration (OSHA) Regulations. While DOT and OSHA regulations do not fall within the technical definition of ARARs because they are not environmentally based, they are nonetheless directly applicable to the extent they address activities associated with the cleanup such as the transportation of hazardous materials and health and safety requirements for workers at the Site.

Permanence

The selected interim remedy does not represent a permanent solution with respect to the principal threats posed by the Site. However, given the interim nature of this action and the fact that further studies are needed before a permanent remedy for the Site can be selected, the statutory preference for use of permanent solutions and alternative treatment technologies will be addressed at the time of selection of the final remedy for the Site.

Treatment

The selected interim remedy does utilize treatment as a principal element. The preference for treatment will be addressed in the final OU for this Site.

10.3 Cost Effectiveness

The selected remedy is cost effective, and, with the exception of the No Action alternative, the selected remedy is the least expensive of the alternatives for this Site.

11.0 Explanation Of Significant Changes

There have been no significant changes in the selected interim remedy from the preferred interim remedy described in the Proposed Plan.

CONCURRENCE LETTERS

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Fob James, Jr.
Governor

John M. Smith, Director

Mailing Address: March 14, 1995
PO BOX 301463
MONTGOMERY AL
36130-1463

Mr. Richard D. Green
Associate Division Director
US EPA, Waste Management Division
345 Courtland Street NE
Atlanta, GA 30365

Physical Address:
1751 Cong. W.L.
Dickinson Drive
Montgomery, AL
36109-2608

Re: TH Agriculture & Nutrition Site, Operable Unit One
draft Interim Action Record of Decision

(334) 271-7700
FAX 270-5612

Dear Mr. Green:

Field Offices:

110 Vulcan Road
Birmingham, AL

35209-4702
(205)942-6168
FAX 941-1603

The Department has reviewed the referenced document. As a decision document, it presents the selected interim remedial action for surficial groundwater at the THAN NPL Site and is based on the Administrative Record. It is understood that this is not a final remedial action decision for the site. A final decision will be made after the Remedial Investigation/Feasibility Study has been completed.

400 Well Street, NE
P.O. Box 953

The selected remedial action will include extraction of contaminated groundwater, treatment as necessary, and discharge of water to a local Publicly Owned Treatment Works. This interim action is being initiated to prevent further migration of contaminated groundwater from the site. If discharge to the POTW proves unworkable during Remedial Design, the treated groundwater will be discharged either on-site, to the East ditch, or to the Alabama River. The selected remedial action meets all State statutory requirements.

Decatur, AL
35602-0953
(205)353-1713

FAX 340-9359

2204 Perimeter Road

Mobile, AL
33615-1131
(334)450-3400
FAX 479-2593

The Department of Environmental Management concurs with the selected remedy. If you have any questions, contact Justin Martindale of Special Projects at (334)260-2786.

Sincerely,

James W. Warr
Deputy Director

copy: Alan Yarbrough, EPA SSRB RPM
JWW/jem

SOUTH
SUPERFUND

STATE OF ALABAMA
DEPARTMENT OF PUBLIC HEALTH
DONALD E WILLIAMSON, M.D. STATE HEALTH OFFICE
March 2, 1995
REMEDIAL
BRANCH

MAR 8 1 57 PM '95

Alan Yarbrough, RPM
U.S. Environmental Protection Agency
Region IV, SSRB
345 Courtland Street, NE
Atlanta, Georgia, 30365

Dear Mr. Yarbrough,

I appreciate the opportunity to review the Interim Action, Record of Decision for the T.H. Agriculture and Nutrition (THAN) Superfund Site, CERCLIS No. ALD007454085. The Alabama Department of Public Health (ADPH) concurs with the interim action selected remedy (Alternative No. 4- Extraction with Discharge to the Publicly Owned Treatment Works (POTW)) for the THAN site. However, if extraction with discharge to the local POTW becomes not feasible, we feel that Alternative No. 3- Extraction with Discharge to the East Ditch should not be used as an option for cleaning up the groundwater unless the contaminated sediments in the ditch are remove.

The U.S. EPA should consider several factors before using Alternative No. 3. Currently, the East Ditch contains contaminants of concern at levels that may cause adverse health effects in humans. These contaminants should be remediated before treated water can be discharged into the ditch. Secondly, if East Ditch sediments are not remediated, the contaminants in the sediment would compound existing contaminant problems in the West-End Ditch. These contaminants would be eventually be pushed into the Alabama River, and might endanger the environment and the public's health.

If you have questions regarding our views of any of the selected remedies, please call me or Brian J. Hughes, Ph.D., at (334)613-5347.

Sincerely,

Neil Daniell
Geologist
Risk Assessment Branch

/nd

cc: Richard Kauffman
Rick Gilling

Administrative Office Mill, 572 E. Patton Avenue, Montgomery, Alabama 36111
Mailing Address: 484 Monroe Street, Montgomery, Alabama 36130-3017

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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35602-0953

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SOUTH
SUPERFUND

STATE OF ALABAMA
DEPARTMENT OF PUBLIC HEALTH
DONALD E. WILLIAMSON, M.D. STATE HEALTH OFFICE
March 2, 1995

MAR 8 1 57 PM '95
REMEDIAL
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U.S. Environmental Protection Agency
Region IV, SSRB
345 Courtland Street, NE
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If you have questions regarding our views of any of the selected remedies, please call me or Brian J. Hughes, Ph.D., at (334)613-5347.

Sincerely,

Neil Daniell
Geologist
Risk Assessment Branch

/nd

cc: Richard Kauffman
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Mailing Address: 484 Monroe Street, Montgmerly, Alabama 36130-3017